

**To:** Nygaard, Eric[eric.nygaard@epa.state.oh.us]  
**Cc:** Goff, Bruce[bruce.goff@epa.state.oh.us]; Jackson, Peter W.[jackson.peter@epa.gov]; Pepin, Rob[pepin.robert@epa.gov]; Kuefler, Patrick[kuefler.patrick@epa.gov]  
**From:** Pellegrini, Janet  
**Sent:** Thur 2/7/2013 5:29:49 PM  
**Subject:** RE: AEC/Bennoc Draft NPDES

Eric,  
Thanks for your summary, I had typed up mine as well.  
A couple of follow up items regarding the call not present in your summary:

Discussion on item #2

2. Piney Creek assessment as part of Captina Creek report question regards the TDS impacts already noted by OEPA report, with absence of Mayfly taxa due to mine discharges in watershed.

OEPA responded that they used the conservative target for Piney Creek of 600mg/L for CWH with a 20% flow value (noted in the Sept 15, 2012 doc). This WLA is based on low flow as well. R5 pointed out cumulative impacts of discharge. OEPA indicated they would add a restriction to discharges during low flow, to address impacts and place some permit language to restrict accordingly.

Discussion on item #6

6. Monitoring frequencies differ between Pond 001 & Pond 002. Timing of sampling also at issue.

OEPA indicated that is a mistake in permit and they will change the monitoring frequency so both permits have same schedule of 2 times per week. OH will also place in permit language that requires sampling when there is a discharge, currently not specified in permit.

R5 stated that the concentration of sample may vary if discharge continues for long period of time and what ensures a representative sample? OEPA stated they could include permit language to do several grab samples and mix or average them.

Discussion on item # 8 & 12- Flow monitoring for Ponds

OEPA explained administrative situation with process between PTI and permit, that permittee needs to have final permit in order to know how to install pond & its possible controls. R5 accepted that, but stated that the Region will need to be included on the submittal for pond design and PTI application for USEPA review.

Would it be possible to have a placeholder condition in the permit, for flow monitoring? Regardless of PTI, the permit needs to specify how it will monitor the existing conditions.

I can send my complete summary, but thought the best way to proceed was to focus on outstanding items.  
thanks

Janet Pellegrini  
Environmental Scientist  
USEPA Region 5, Water Division, NPDES Branch  
77 West Jackson Blvd. #WN-16J  
Chicago, IL 60604-3590

phone: (312) 886-4298  
fax: (312) 692-2436

From: "Nygaard, Eric" <eric.nygaard@epa.state.oh.us>  
To: "Goff, Bruce" <bruce.goff@epa.state.oh.us>, Janet Pellegrini/R5/USEPA/US@EPA, Robert  
Pepin/R5/USEPA/US@EPA, Peter Jackson/R5/USEPA/US@EPA,  
Cc: "Novak, Paul" <Paul.Novak@epa.state.oh.us>  
Date: 02/06/2013 03:06 PM  
Subject: RE: AEC/Bennoc Draft NPDES

Here are my summary notes from yesterday's call, and the evaluations that we will do before issuing the permit. Let me know if I missed anything.

Item 1 – Pollutants regulated: We use TDS to regulate chronic toxicity; we are willing to use either sulfate or acute toxicity using Ceriodaphnia. To assess the need for TDS, we reviewed and accepted the company's WLA to meet both the TDS criterion and antidegradation requirements in Piney Creek. We found that the discharge has the reasonable potential to exceed TDS WQ criteria in the unnamed tributaries of Piney Creek, and wrote permit conditions to limit chronic exposures instead of including numeric limits.

Region V expressed a preference for using sulfate limits to regulated potential acute toxicity, rather than using Ceriodaphnia toxicity tests. Since the permit is written this way, this not a problem, at least conceptually. Ohio is working to add the sulfate criteria formulas to its aquatic life criteria under OAC 3745-1-36 or similar rule authority.

Items 2 and 11 – Piney Creek Use Designations and Attainment Status: Ohio's Biological and Water Quality Report classifies Piney Creek as impacted by mining discharges, but not impaired. The Use Attainment Table in this report shows that Piney Creek near the mouth is in full attainment of Coldwater Habitat biological standards. While TDS-sensitive mayfly taxa are absent at this location, enough other coldwater species are present to classify the site as fully attaining the use. The site is considered impacted because macroinvertebrate communities in lower Piney Creek are significantly less diverse than those in similar Captina Creek tributaries. Most other tributaries have exceptional macroinvertebrate communities; Piney Creek's bugs are just rated good.

Also, Piney Creek is not designated or used as a Public Water Supply. Region V staff may have been looking at designations for another Piney Creek in the watershed.

Items 3, 9 and 15 – Discharge Duration Limit: The 48-hour duration limit in the draft permit is based on the standard acute toxicity test duration for macroinvertebrate species (48-hours).

Exposure times longer than this period are assumed to be chronic exposures. Also, the limit is based on the factors contributing to toxicity – the duration, frequency and magnitude of exposure to toxicants. Since TDS is difficult to treat, other options to limit toxicity make be more cost-effective. It should be true that reducing the exposure duration will remove a chronic exposure to the toxicity of TDS, and make limits unnecessary. Limiting the duration to 48 hours may be easier for the company to meet than treating or diluting to meet 1500 mg/l TDS in the tributaries.

Region V pointed out that it may be possible for a discharge to occur in 4 days out of 6 and still meet the 48-hour duration requirement during a week. We agree that this situation would represent a chronic exposure, and will review the permit language to ensure a recovery period. Ohio EPA is willing to consider a longer recovery period if U.S. EPA has data to suggest that it should be longer. Ohio is not aware of any studies of mayfly recovery time.

Items 4 and 8 – Pond freeboard and PTI requirements: Ohio acknowledges that American Energy may need to modify the ponds to meet a discharge duration requirement. We envision that plans will be updated prior to discharge if the ponds cannot meet permit conditions. However, Ohio does not want to ask for a PTI revision now because a new PTI would start the antidegradation process over, delaying approval of the project.

As drafted the permit does allow the facility to completely empty a pond during a discharge event. This action may or may not meet WQS in Piney Creek. Ohio EPA will review the WLA and permit conditions to make sure that permit conditions protect Piney Creek. This may involve setting loading or flow limits.

Item 5 – OMZM/IMZM Multiplier: The 1.3X multiplier between OMZM and IMZM that exists in the criteria formulas was not used in drafting the permit limits for sulfate. The sulfate limits in the draft permit are OMZM values applied at the discharge to protect the unnamed tributaries of Piney Creek.

Item 6 – Monitoring Frequency Differences Between Outfalls: The draft permit contains typographical errors. The monitoring frequencies for both outfalls should be 2/week.

Items 7, 13 and 14 – Sulfate WQ Criteria and WLA: Region V questioned whether the sulfate criteria were correctly calculated, noting that instream values for hardness and chloride should be used to calculate criteria, not effluent values. Ohio believes that the criteria are accurate for the unnamed tributaries of Piney Creek, as these streams are effluent dominated. We agree that Piney Creek WQ criteria for sulfate should be calculated using instream hardness and chloride. Ohio will review the Piney Creek WLA to determine whether the draft permit limits for sulfate protect WQS in Piney Creek and will make adjustments to the limits if they are not protective.

Ohio believes that if the WLA values are met, the WQ criteria in Piney Creek will be protected.

Item 10 – Flow or Volume Limits: The permit does allow the company to empty the entire pond during a 48-hour discharge event. Region V believes that WQS may not be protected if discharge volumes are not regulated. Ohio agrees that permit conditions need to be more specific in this area. We will add loading or flow limits to ensure that the WLA conditions are maintained.

Item 12 – Flow Monitoring Equipment: Region V requested that the permit spell out flow

monitoring equipment and an associate operation and maintenance plan. Ohio had anticipated the company making improvements to their flow estimation capability in the upcoming PTI. We believe that the PTI is the best place to regulate this kind of requirement, although we are considering specifying methods of flow estimation in the permit. Region V requested to review the PTI when it is submitted, and Ohio agrees to forward the PTI application when we receive it.

**From:** Goff, Bruce

**Sent:** Wednesday, February 06, 2013 11:13 AM

**To:** Pellegrini.Janet@epamail.epa.gov; pepin.robert@epamail.epa.gov; Jackson.Peter@epamail.epa.gov

**Cc:** Nygaard, Eric

**Subject:** RE: AEC/Bennoc Draft NPDES

Janet:

In yesterday's call there was a comment about the wrong sulfate formula in AEC's WQ Assessment Report. See attached email I just sent to the company and their consultant. The email also has a copy of an email I sent them last year about this "mistake". Looks like consultant didn't correct the mistake in his September revision of the report. Maybe email wasn't in time for mistake to be corrected in his September revision.

Bruce

**From:** [Pellegrini.Janet@epamail.epa.gov](mailto:Pellegrini.Janet@epamail.epa.gov) [<mailto:Pellegrini.Janet@epamail.epa.gov>]

**Sent:** Tuesday, February 05, 2013 5:50 PM

**To:** Goff, Bruce; [pepin.robert@epamail.epa.gov](mailto:pepin.robert@epamail.epa.gov); [Jackson.Peter@epamail.epa.gov](mailto:Jackson.Peter@epamail.epa.gov)

**Cc:** Nygaard, Eric

**Subject:** Re: AEC/Bennoc Draft NPDES

Bruce,

Thanks much, I forwarded to Rob Pepin (NPDES) and Pete Jackson (WQB) and included their emails herein for any future information.

Janet Pellegrini

Environmental Scientist

USEPA Region 5, Water Division, NPDES Branch

77 West Jackson Blvd. #WN-16J

Chicago, IL 60604-3590

phone: (312) 886-4298

fax: (312) 692-2436

"Goff, Bruce" ---02/05/2013 04:03:21 PM---Janet and Eric: Regarding the comment no.9 about when pond can discharge again during our call today

From: "Goff, Bruce" <[bruce.goff@epa.state.oh.us](mailto:bruce.goff@epa.state.oh.us)>

To: Janet Pellegrini/R5/USEPA/US@EPA,

Cc: "Nygaard, Eric" <[eric.nygaard@epa.state.oh.us](mailto:eric.nygaard@epa.state.oh.us)>

Date: 02/05/2013 04:03 PM

Subject: AEC/Bennoc Draft NPDES

Janet and Eric:

Regarding the comment no.9 about when pond can discharge again during our call today.

I looked at some email and notes and the intent was to only allow the discharge once in a 7 day period, i.e. aquatic life only exposed to the higher TDS for no more than 48 hours once every 7 days. So if there was a discharge on day 1 and day 2, there could be no more discharges until day 8. If only discharge day 1, they could discharge again day 7.

Don't know if USEPA saw attached email where I explained to AEC "This is so the aquatic life is only exposed to the TDS in one 48 hr. period only once per 7 day period. "

I guess we could simply say don't discharge again until at least 6 days have passed since the end of the last discharge to be more clear. The permit will need language to allow a discharge more frequently if there is a unusual precipitation event, which is that the draft does have.

Regarding comment no. 8. regarding PTI submittal. The NPDES P. does have a condition in Part II, item D. that AEC must submit a PTI to OEPA "prior to any

installation/construction of any improvements to the treatment ponds". Not sure if everyone saw this.

Also not sure if USEPA says attached second email to the company. In this I explained that a PTI would be needed for changes to the ponds and also stated this:

During the call today we had a short discussion about pond liners. Note comment in the email:

"If the bottom area of the ponds will be enlarged during the modification of the ponds, please include a specification and details showing a good compaction using a good clay type soil so seepage will be minimized. If the ponds have seepage, the criteria to only discharge < 48 hrs, once a week would not be met."

Hope this helps.

I didn't get everyone's names on the call today, so please pass this on to anyone else who was on the call who may be interested.

Bruce

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[attachment "Pages from designmanual[1].pdf" deleted by Janet Pellegrini/R5/USEPA/US] [attachment "Pages from eng\_96-1,sediment\_pond\_design[1].pdf" deleted by Janet Pellegrini/R5/USEPA/US] [attachment "Pages from dev05-8chugh[1].pdf" deleted by Janet Pellegrini/R5/USEPA/US] [attachment "AEC Pond Cross Section.pdf" deleted by Janet Pellegrini/R5/USEPA/US] [attachment "Spreadsheet for Sulfate and Chloride WQS AEC-Bennoc. Sept 2012.xls" deleted by Janet Pellegrini/R5/USEPA/US]